APPENDIX G

DESCRIPTION OF PROCESSING EQUIPMENT REPLACEMENT PROJECT

CITY OF SUNNYVALE
SMaRT STATION

PROCESSING EQUIPMENT REPLACEMENT PROJECT

PROJECT DESCRIPTION

1.0 Introduction

The Sunnyvale Materials Recovery and Transfer Station (SmaRT Station) began processing municipal solid waste (MSW) in 1994. Throughout the last twelve years, the facility has processed from 800 tons per day to as high as 1200 tons per day on a 2-shift, 16-hour day, the difference indicating how the local economy can affect the daily volumes. Over the last twelve years, the recovery of recyclable materials from the MSW stream has varied from 15% up to 20%.

However, over the years of operation, certain deficiencies have appeared in the processing system. These are:

- The majority of the "high tech" sorting equipment has not been effective and is presently not operating as originally designed.
- Much of the waste delivered is contained in plastic bags. The bag opening system was not effective and is no longer in operation. As a result, plastic bags are manually opened so that recyclable material can be recovered from the waste stream.
- After 12 years, some of the processing equipment is showing signs of wear and fatigue requiring more frequent maintenance and replacement of worn components.
- Proprietary (patented) developed equipment requires expensive upgrades, or replacement parts are not available.

In 2004, the City investigated the types of equipment which are today processing MSW. Alternatives were developed and cost estimates completed for each alternate. Then in 2005, the City approved a project to remove all of the existing MSW processing equipment and replace it with new "state-of-the-art" proven processing equipment. The following is a description of this new project for replacing the existing processing equipment.

2.0 Project Objectives

The City has identified the following objectives or goals for this new project:

- Provide a new system which has the flexibility to adapt to the changing waste stream.

- Increase the recovery of recyclable materials from the waste stream. Presently, the rate is ±18%. The City is desirous of a rate in excess of 20%.

- A new system which results in a reduced staffing level, or results in a system where the staff are more effective and efficient.

- Re-use existing equipment where possible.

3.0 Project Design Criteria

The following is the criteria which must be followed in designing a new processing system:

- The MSW processing system shall be capable of processing up to 1200 tons per day in a multi-shift operation.

- There shall be two (2) main processing lines, both capable of processing the same waste streams.

- Only "proven" equipment should be utilized.

- All manual sorting lines shall be enclosed for worker comfort and safety. The enclosures shall be heated and air-conditioned.

- Proper access shall be supplied to all equipment for proper operations and maintenance.

- The latest building codes, electrical codes and mechanical codes shall be utilized for any new designs.

- For safety and economy, there will be no attempt to keep parts of the existing MSW processing system operational during installation of the new system. However, the existing 2-stream curbside recyclable processing system, will stay operational at all times.

4.0 Project Scope

In general, the project will involve the following:

- All existing conveyors, screens, baler and magnets will be demolished and removed from the site. A few existing conveyors and magnets will be identified for re-use. These will be removed, retained, modified, and then re-used in the new system.

- All equipment supports, enclosures, walls, stairways and platforms will be demolished and removed from the site.

- The existing dust control system (which has not been operational since 1994) will be demolished and removed from the site.

- The existing fire sprinkler lines and sprinkler heads will be removed from under the existing conveyors. The sprinkler system at the roof line will not be touched.

- All existing motor control centers (MCC) and conduits to these MCC's and from the MCC's to the separate motors will be demolished and removed from the site.

- New conveyors, trommels, baler, screens, and magnets will be installed per the arrangement shown on enclosed drawing PM-1. This includes new supports for all of this equipment.

- New stairway and platforms will be installed for equipment access.

- Two (2) new conveyor pits wills be constructed in the existing floor for two (2) new baler feed conveyors.

- New enclosures will be constructed over the two (2) new sorting platforms. These enclosures will be heated and air-conditioned utilizing make-up air from outside the building.

- Due to the conditioned air systems in the enclosures, a new dust control system will not be installed for the areas outside the enclosures. Operations over the last 12+ years indicates that this is not required, and observations from existing MSW processing facilities further indicates that a new dust control system is not required.

- The existing light fixtures from the building roof will be adjusted/relocated to provide maximum foot-candle lighting for the new equipment and accessways.

- New motor control centers (MCC's) will be installed; power extended from the existing electrical room to the MCC's, and then power and controls extended to the individual conveyors, screens, magnets, and baler.

The new processing equipment will occupy the same basic area as the existing processing equipment.

5.0 Process Flow Description

The following is a description of the specific process flow for the layout which was approved by the City.

Flow Description

The incoming MSW material shall be processed starting from the tipping floor through dual conveyor in-feed lines C-100 & C-200. As the feed stream elevates to an enclosed pre-sort station via C-101 & C-201, bulky items shall be removed manually and dropped onto reversible

conveyors underneath the sort room which in turn deposit the material into self dump hoppers positioned at each end of each conveyor. The items to be removed are:

C-700 --- chunks of concrete compiled into rolling bins by sorters and dropped through the first row of chutes once the bin is filled.

C-701 --- rejects like carpet, tires, clothing, leather, etc.

C-702 --- lumber, wood pallets, large limbs and stumps, etc.

C-703 --- bulky metals such as bicycles, pots and pans, toasters, etc.

C-704 --- large corrugated boxes by which the only material conveyed into a walking floor for eventual baling.

After pre-sort, the remaining feed stream shall be fed into the trammels to cut open the bags and separate the materials into three fractions; -2", "middlings" and "oversized". The first section of the trommels shall collect the –2" falling through the holes onto the belly conveyors (C-106 & C205) and transport the material by a series of conveyors to two (2) containers located adjacent to the north wall of the building, between baylines 3 and 4. That is, one new conveyor will extend from the interior of the building, through the north wall, to the two containers. Prior to load-out of the –2", E-500 magnet installed above C-501 head pulley will capture any ferrous entrained in the feed stream and be conveyed via C0-504 for storage into the ferrous "walking floor" bin. Load out conveyor C-503 is reversible to fill either roll-off to keep the system running continuously. The (-9") "middlings" falling off onto belly conveyors C-107 & C-206 shall be fed onto V-700 by way of C-706 & C-707 for further size separation. V-700 shall make two cuts of –9"/+5" and –5" fractions.

The –9"/+5" will go over V-700 and conveyed into a splitter box to reduce burden depth for effective sorting. Under the splitter box are C-709 & C-710 (reversible) to either split the material onto C-711 & C-712, or send all material onto one sort conveyor at times of low throughput. Materials to be sorted from C0711 & C0712 are shown on drawing PM-1. Magnets E-700 & E-701 positioned over the end of the sort conveyors will pick up and discharge ferrous on to C-505 for storage into C-726 walking floor. The remaining trash will continue on to the existing main trash load out conveyor C-601.

The +9" stream from the trammels shall go to C-105 & C-204 respectively for manual sorting recyclables identified on drawing PM-1. The walking floors under the +9" sort room are existing to be re-furbished and re-used into the new system.

The –5" fraction falling through V-700 disc openings shall be collected and conveyed via C-718 & C-719 to feed the secondary screen V-701 to separate and form two fractions of –5"/+2" and –2" streams.

The –5"/+2" stream shall be discharged over V-701 to feed magnet E-300 and the eddy current separator G-300 for removal of ferrous and non-ferrous mechanically. The non-ferrous material

collected by G-300 shall proceed to G-301 for further clean-up. The ferrous pickup up by E-300 shall be deposited into a self dump hopper located on the floor near the pre-sort station.

The –2" material shall fall through V-701 openings onto belly conveyor C-720 and dumps onto C-501 to join the –2" stream.

The combined residue from G-300 and G-301 shall be transported via C-405 to C-601 for off-site disposal.

The collected recyclable materials deposited into walking floors and push-through bunkers under the sort rooms shall be baled alternately by a tow-ram baler B-800 via pit conveyors C-800 and C-801.

6.0 Project Schedule

See enclosed schedule for basic design, bid and construction dates.

City of Sunnyvale, CA
EQUIPMENT LIST

PRELIMINARY TO REV. A
UNDER REVIEW - June 2, 2006

REV : **A**
Rev. Date : **June 2, 2006**
ISSUED : **Issued For Bid**
Job No : 559-002
Print Date: **June 5, 2006**

EQUIP NUM	EQUIPMENT DESCRIPTION	EQUIPMENT TYPE	BELT TYPE	BELT WIDTH (IN)	LOWER HORIZ (FT)	INCLINED LENGHT (FT)	UPPER HORIZ. (FT)	ANGLE DEG. ESTIMATED	SIDESKIRT HEIGHT (IN)	CLEAT SPACING	BELT SPEED (FPM)	EST. H.P.	MOTOR STARTER TYPE	BELT SCRAPER	DESCRIPTION OF WORK AND COMMENTS
CONVEYORS															
C-100	WALKING FLOOR	WALKING	STEEL BED	96	25'-0"	-	-	0	0	-		25	HYDRAULIC	NO	FIELD MEASURE ACTUAL DIMENSIONS.
	PIT INFEED	FLOOR BED													
	CONVEYOR														
C-101	MODIFIED EXIST. C-701	ROLLER CHAIN	EXISTING	96	9'-2-1/2"	31'-4"	3'-0"	40	36	4"@60"	15-45	20	VFD	NO	MODIFY EXIST. C-701 CONVEYOR AND RE-INSTALL AS C-101. PROVIDE NEW VFD DRIV
RE-USE	CONVEYOR	BELT			AS IS					AS IS	AS IS				CHANGE ALL DAMAGED SAFETY GUARDS. PROVIDE NEW PHO-EYES AT INFEED. REPLACE
EXIST. C-701		9" PICT													ALL DAMAGED CLEATS. MODIFY AND RELOCATE SUPPORTS.
C-102	INCLINED FEED	ROLLER CHAIN	330 PIW	72	22'-0"	24'-0"	4'-0"	35	36	4" @ 48"	20-45	7.5	VFD	NO	
	TRANSFER CONVEYOR	BELT	3-PLY MOR												
		6" PITCH	C x C												
C-103	PRE-SORT	"PICKING STYLE"	225 PIW	60	52'-9"	-	-	0	6	-	80 -150	3	VFD	YES	
	CONVEYOR	SLIDER BED	3-PLY MOR												
			C X BARE												
C-104	T-100 "OVERS"	ROLLER CHAIN	330 PIW	60	10'-0"	26'-6"	3'-3"	35	36	4" @ 48"	50	8	FVNR	NO	
	TRANSFER	BELT	3-PLY MOR												
	CONVEYOR	6" PITCH	C x C												
C-105	T-100 "OVERS"	"PICKING STYLE"	225 PIW	60	45'-9"	-	-	0	6	-	80-150	3	VFD	YES	
	SORT CONVEYOR	SLIDER BED	3-PLY MOR												
			C x BARE												
C-106	T-100 "FINES"	TROUGH	225 PIW	60	-	18'-6"	-	5	12	-	100	2	FVNR	YES	ATTACHED TO TROMMEL HOPPER
	COLLECTION	SLIDER BED	3-PLY MOR												
	CONVEYOR		C x BARE												
C-107	T-100 "MIDDLINGS"	TROUGH SLIDER	225 PIW	60	-	16'-6"	-	5	12	-	100	2	FVNR	YES	ATTACHED TO TROMMEL HOPPER
	COLLECTION	BELT	3-PLY MOR												
	CONVEYOR		C x BARE												
C-200	WALKING FLOOR	WALKING	STEEL	96	25'-0"	-	-	0	0	-		25	HYDRAULIC	NO	FIELD MEASURE ACTUAL DIMENSION
	PIT	FLOOR BED	BED												
	CONVEYOR														
C-201	MOFIFIED EXIST. C-100	ROLLER CHAIN	EXISTING	96	EXIST	44'-4"	3'-5"	40	36	EXIST	AS IS	20	VFD	NO	MODIFY EXIST. C-100 CONVEYOR AND RE-INSTALL AS C-201. PROVIDE NEW VFD
RE-USE	CONVEYOR	BELT			AS IS					AS IS					REPLACE ALL DAMAGED CLEATS AND SAFETY GUARDS. INSTALL NEW PHO-EYES
EXIST. C-100		9" PITCH													AT INFEED.
C-202	PRE-SORT	"PICKING STYLE"	225 PIW	60	40'-0"	-	-	0	6	-	80 -150	3	VFD	YES	
	CONVEYOR	SLIDER BED	3-PLY MOR												
			C X BARE												
C-203	T-200 "OVERS"	ROLLER CHAIN	330 PIW	60	10'-0"	26'-6"	3'-3"	35	36	4" @ 48"	50	8	FVNR	NO	
	TRANSFER	BELT	3-PLY MOR												
	CONVEYOR	6" PITCH	C x C												
C-204	T-200 "OVERS"	"PICKING STYLE"	225 PIW	60	45'-9"	-	-	0	6	-	80-150	3	VFD	YES	
	SORT CONVEYOR	SLIDER BED	3-PLY MOR												
			C x BARE												
C-205	T-200 "FINES"	TROUGH	225 PIW	60	-	18'-6"	-	5	12	-	100	2	FVNR	YES	ATTACHED TO TROMMEL HOPPER
	COLLECTION	SLIDER BED	3-PLY MOR												
	CONVEYOR		C x BARE												
C-206	T-100 "MIDDLINGS"	TROUGH	225 PIW	60	-	16'-6"	-	5	12	-	100	2	FVNR	YES	ATTACHED TO TROMMEL HOPPER
	COLLECTION	SLIDER BED	3-PLY MOR												
	CONVEYOR		C x BARE												
C-400	RESIDUE	TROUGH	NEW 220 PIW	48	36'-0"	-	-	0	24	-	120	3	FVNR	YES	MODIFY EXIST. C-703 TO FIT. INSTALL NEW BELT AND SCRAPER. INSTALL NEW DRI
RE-USE	COLLECTION	SLIDER BED	2-PLY STD		NEW				EXIST		NEW	NEW		NEW	SPEED. REMOVE ALL DAMAGED SECTIONS. CLEAN ALL PARTRS AND RE-PAINT.
EXIST. C-703	CONVEYOR	EXISTING	C x BARE												INSTALL NEW DRIP PAN FULL LENGTH.
C-401	RESIDUE	ROLLER CHAIN	330 PIW	48	31'-0"	13'-0"	9'-6"	35	24	4" @ 48"	50	5	FVNR	NO	
	TRANFER	BELT	3-PLY STD												
	CONVEYOR	6" PITCH	C x C												
C-402	RESIDUE	TROUGH	220 PIW	48	22'-0"	-	-	0	24	-	130	2	FVNR	YES	
	TRANSFER	SLIDER BED	2-PLY STD												
	CONVEYOR		C x BARE												
C-403	G-301 RESIDUE	TROUGH IDLER	150 PIW	30	7'-0"	-	-	0	12	-	100	1	FVNR	YES	V-GROOVE HEAD PULLEY
	COLLECTION		2-PLY STD												
	CONVEYOR		C x BARE												
C-404	RESIDUE	TROUGH IDLER	150 PIW	30	-	61'-8"	-	3	12	-	120	3	FVNR	YES	
	TRANSFER		2-PLY STD												
	CONVEYOR		C x BARE												
C-405	RESIDUE	ROLLER CHAIN	330 PIW	30	6'-6"	30'-9"	-	42	18	3" @ 36"	50	5	FVNR	NO	
	TRANSFER	BELT	3-PLY MOR												
	CONVEYOR	6" PITCH	C x C												
C-500	"FINES"	ROLLER CHAIN	330 PIW	36	47'-0"	11'-4"	15'-0"	35	18	3" @ 36"	50	7.5	FVNR	NO	
	TRANSFER	BELT	3-PLY MOR												
	CONVEYOR	6" PITCH	C x C												
C-501	"FINES"	TROUGH IDLER	220 PIW	36	-	108'-0"	-	7	18	-	120	5	FVNR	YES	STAINLESS STEEL HEAD PULLEY & HEAD SECTION
	TRANSFER		2-PLY STD												
	CONVEYOR		C x BARE												
C-502	"FINES"	TROUGH IDLER	220 PIW	36	-	52'-0"	-	8	18	-	130	3	FVNR	YES	
	TANSFER		2-PLY STD												
	CONVEYOR		C x BARE												
C-503	"FINES"	TROUGH IDLER	220 PIW	36	13'-6"	-	-	0	18	-	130	1.5	FVR	YES	REVERSIBLE DRIVE. V-GROOVE HEAD PULLEY

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C-504	E-500 FERROUS	TROUGH	150 PIW	24	45'-0"	-	-	0	12	-	100	2	FVNR	YES	RE-USE EXIST. C715 AND CUT TO FIT. REMOVE CUT-OUT SECTION. INSTALL NEW DRI
RE-USE	CLLECTION	SLIDER BED	2-PLY STD		NEW				EXIST		NEW	NEW		NEW	INCREASE SPEED. INSTALL NEW DRIP PAN FULL LENGTH. INSTALL NEW BELT AND BEL
EXIST. C-715	CONVEYOR	EXISTING	C x BARE		LENGTH										CLEAN ALL PARTS AND RE-PAINT.
C-505	E-700 & E-701	TROUGH	EXIST	24	36'-4"	-	-	0	EXIST	-	60	2	FVNR	YES	RE-USE EXIST. C-660. REMOVE INFEED HOPPER. CLEAN ALL PARTS.
RE-USE	FERROUS COLLECTION	SLIDER BED	CRESCENT TOP												INSTALL NEW DRIP PAN FULL LENGTH.
EXST. C-660	CONVEYOR	EXISTING	BELT												
C-700	CONCRETE	TROUGH	220 PIW	60	36'-6"	-	-	0	30	-	100	2	FVR	YES	REVERSIBLE DRIVE. V-GROOVE HEAD PULLEY
	LOADOUT	SLIDER BED	2-PLY STD												
	CONVEYOR		C x BARE												
C-701	REJECTS	TROUGH	220 PIW	60	36'-6"	-	-	0	30	-	100	2	FVR	YES	REVERSIBLE DRIVE. V-GROOVE HEAD PULLEY
	LOADOUT	SLIDER BED	2-PLY STD												
	CONVEYOR		C x BARE												
C-702	WOOD	TROUGH	220 PIW	60	36'-6"	-	-	0	30	-	100	2	FVR	YES	REVERSIBLE DRIVE. V-GROOVE HEAD PULLEY
	LOADOUT	SLIDER BED	2-PLY STD												
	CONVEYOR		C x BARE												
C-703	BULKY METAL	TROUGH	220 PIW	60	36'-6"	-	-	0	30	-	100	2	FVR	YES	REVERSIBLE DRIVE. V-GROOVE HEAD PULLEY
	LOADOUT	SLIDER BED	2-PLY STD												
	CONVEYOR		C x BARE												
C-704	OCC	TROUGH	150 PIW	60	45'-6"	-	-	0	30	-	100	2	FVNR	YES	
	TRANSFER	SLIDER BED	2-PLY STD												
	CONVEYOR		C x BARE												
C-705	OCC	TROUGH	150 PIW	60	-	124'-0"	-	2	36	-	100	3	FVNR	YES	
	LOADOUT	SLIDER BED	2-PLY STD												
	CONVEYOR		C x BARE												
C-706	"MIDDLINGS"	ROLLER CHAIN	330 PIW	60	38'-0"	40'-6"	4'-6"	35	30	4"@48"	50	8	FVNR	-	
	TRANSFER	BELT	3-PLY MOR												
	CONVEYOR	6" PITCH	C x C												
C-707	V-700 INFEED	TROUGH	225 PIW	60	-	23'-8"	-	10	30	-	120	3	FVNR	YES	
	CONVEYOR	SLIDER BED	3-PLY MOR												
			C x BARE												
C-708	V-700 "OVERS"	ROLLER CHAIN	330 PIW	60	12'-2"	19'-9"	3'-3"	35	30	4"@48"	50	8	FVNR	-	
	TRANSFER	BELT	3-PLY MOR												
	CONVEYOR	6" PITCH	C x C												
C-709	SPLITTER	SLIDER	150 PIW	60	10'-0"	-	-	0	24	-	120	1	FVR	YES	REVERSIBLE DRIVE. V-GROOVE HEAD PULLEY.
	CONVEYOR	BED	2-PLY STD												
			C x BARE												
C-710	SPLITTER	SLIDER	150 PIW	60	10'-0"	-	-	0	24	-	120	1	FVR	YES	REVERSIBLE DRIVE. V-GROOVE HEAD PULLEY.
	CONVEYOR	BED	2-PLY STD												
			C x BARE												
C-711	"MIDDLINGS"	"PICKING STYLE"	150 PIW	60	-	18'-8"	45'-0"	8	6"/24" @ TAI	-	80-150	3	VFD	YES	TURN DOWN TAIL SECTION. STAINLESS STEEL HEAD PULLEY AND HEAD SECTION
	SORT CONVEYOR	SLIDER BED	2-PLY STD					TURNED DOWN							
			C x BARE					TAIL SECT							
C-712	"MIDDLINGS"	"PICKING STYLE"	150 PIW	60	-	18'-8"	45'-0"	8	6"/24" @ TAI	-	80-150	3	VFD	YES	TURN DOWN TAIL SECTION. STAINLESS STEEL HEAD PULLEY AND HEAD SECTION
	SORT CONVEYOR	SLIDER BED	2-PLY STD					TURNED DOWN							
			C x BARE					TAIL SECT							
C-713	FUTURE ALUMINUM BIN CONVEYOR	TROUGH SLIDER BED		36	24'-0"	-	-	0	9'-0"	-	25	2	RVS	YES	STOP/START JOG DRIVE
C-714	FUTURE HDPE BIN CONVEYOR	TROUGH SLIDER BED		36	24'-0"	-	-	0	9'-0"	-	25	2	RVS	YES	STOP/START JOG DRIVE
C-715	FUTURE PET BIN CONVEYOR	TROUGH SLIDER BED		36	24'-0"	-	-	0	9'-0"	-	25	2	RVS	YES	STOP/START JOG DRIVE
C-716	FUTURE #3-#7 BIN CONVEYOR	TROUGH SLIDER BED		36	24'-0"	-	-	0	9'-0"	-	25	2	RVS	YES	STOP/START JOG DRIVE
C-717	MIXED PAPER	ROLLER CHAIN	330 PIW	36	24'-0"	-	-	0	9'-0"	-	15	3	RVS	NO	STOP/START JOG DRIVE.
	BIN	BELT	3-PLY STD						LOWER SECT.						
	CONVEYOR	6" PITCH	C x C						TAPERED						
C-718	V-700 "UNDERS"	TROUGH	220 PIW	48	-	26'-3"	-	7	9" WITH	-	120	3	FVNR	YES	FLARED TWO END HOPPER RUNNING FULL LENGTH
	COLLECTION	SLIDER BED	2-PLY STD						INFEED						
	CONVEYOR		C x BARE						HOPPER						
C-719	V-701	TROUGH SLIDER	220 PIW	48	-	22'-0'	-	15	24	2"@36"	120	3	FVNR	NO	
	INFEED		2-PLY STD												
	CONVEYOR		C x BARE												
C-720	V-701	TROUGH	220 PIW	36	26'-3"	-	-	0	12	-	100	5	FVNR	YES	RE-USE C-322 &CUT TO FIT REMOVING CUT OUT & DAMAGED SECTIONS. INSTALL N
	"FINES" COLLECTION	SLIDER BED	2-PLY STD	EXIST	NEW						EXIST	EXIST		NEW	CLEAN ALL PARTS AND RE-PAINT. NEW BELT SCRAPER.
	CONVEYOR	EXIST	C x BARE		LENGTH										
C-721	V-701	TROUGH	150 PIW	36	-	35-0"	-	10	18	-	120	2	FVNR	YES	STAINLESS STEEL HEAD PULLEY AND HEAD SECTION.
	"OVERS"	SLIDER BED	2-PLY STD												
	CONVEYOR		C x BARE												
C-722	WOOD	TROUGH	220 PIW	60	32'-0'	-	-	0	30	-	100	2	FVNR	YES	
	LOADOUT	SLIDER BED	2-PLY STD												
	CONVEYOR		C x BARE												
C-723	OCC	WALKING	NEW STEEL	90" O.D.	44'-0" O.D.	-	-	0	8'-6"	-	EXIST	25	FVNR	-	RELOCATED EXIST. C-900 WITH NEW STEEL BED SLATS.
RE-USE	BUNKER	FLOOR	BED	FRAME	FRAME							HYDRAULIC			RELOCATED HYDRAULIC PACK AND PIPING. PROVIDE NEW PIPI & FITTINGS AS REQU
			(+/-)	(+/-)								PUMP			FIELD MEASURE ACTUAL DIMENSION.
															RELOCATED EXIST. C-901 WITH NEW STEEL BED SLATS. SHARES POWER PACK WITH

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															FIELD MEASURE ACTUAL DIMENSION.
RE-USE	BUNKER	FLOOR	BED	FRAME	FRAME										
EXIST	WALKING FLOOR			(+/-)	(+/-)										
C-725	MP	WALKING	NEW STEEL	90" O.D.	44'-0" O.D.	-	-	0	8'-6"	-	EXIST	-		-	RELOCATED EXIST. C-902 WITH NEW STEEL BED SLATS. SHARES POWER PACK WITH C
RE-USE	BUNKER	FLOOR	BED	FRAME	FRAME										FIELD MEASURE ACTUAL DIMENSION.
EXIST	WALKING FLOOR			(+/-)	(+/-)										
C-726	FERROUS	WALKING	NEW STEEL	90" O.D.	44'-0" O.D.	-	-	0	'-6" EAST SI	-	EXIST	-		-	RELOCATED EXIST. C-903 WITH NEW STEEL BED SLATS. SHARES POWER PACK WITH C
RE-USE	BUNKER	FLOOR	BED	FRAME	FRAME				6'-0" WEST SIDE						FIELD MEASURE ACTUAL DIMENSION.
EXIST	WALKING FLOOR			(+/-)	(+/-)										
C-727	G-300	TROUGH	150 PIW	36	-	16'-9"	-	10	18	-	100	2	FVNR	YES	
	INFEED	SLIDER BED	2-PLY STD												
	CONVEYOR		C x BARE												
C-728	ALUMINUM	TROUGH	150 PIW	24	31'-0"	-	-	0	12	-	110	1.5	FVNR	YES	
	TRANSFER	SLIDER BED	2-PLY STD												
	CONVEYOR		C x BARE												
C-729	G-301	ROLLER CHAIN	AS IS	24	8'-6"	18'-6"	-	40	AS IS	AS IS	60	5	FVNR	NO	MODIFY & RE-USE EXIST. CONVEYOR C-950. INSTALL NEW DRIVE SYSTEM.
RE-USE	INFEED	6" PITCH			NEW	NEW		NEW			AS IS	AS IS			MODIFY BENT SECTION TO SUIT NEW ANGLE. REMOVE DAMAGED SECTION. CLEAN ALL P
EXIST. C-950	CONVEYOR	E-USE EXIST. C-950													
C-730	ALUMINUM	TROUGH	150 PIW	24	-	21'-3"	-	20	18	2"@36"	120	2	FVNR	NO	
	LOADOUT	SLIDER BED	2-PLY STD												
	CONVEYOR		C x BARE												
C-800	BALER INFEED	ROLLER CHAIN	330 PIW	72"	54'-8"	-	-	0	24	-	50	5	RVS	NO	BALER CONTROLPANEL
	PIT CONVEYOR	6" PITCH	3-PLY STD												
			C x C												
C-801	BALER INFEED	ROLLER CHAIN	330 PIW	72"	16'-0"	43'-4'	5'-0"	25	36	4"@48"	50	7.5	RVS	NO	BALER CONTROL PANEL
	PIT CONVEYOR	6" PITCH	3-PLY STD												
			C x C												

City of Sunnyvale, CA
EQUIPMENT LIST

PRELIMINARY TO REV. A
UNDER REVIEW - June 2, 2006

REV : **A**
Rev. Date : **June 2, 2006**
ISSUED : **Issued For Bid**
Job No : 559-002
Print Date: **June 5, 2006**

EQUIP NUM	EQUIPMENT DESCRIPTION	EQUIPMENT TYPE	BELT TYPE	BELT WIDTH (IN)	LOWER HORIZ (FT)	INCLINED LENGHT (FT)	UPPER HORIZ. (FT)	ANGLE DEG. ESTIMATED	SIDESKIRT HEIGHT (IN)	CLEAT SPACING	BELT SPEED (FPM)	EST. H.P.	MOTOR STARTER TYPE	BELT SCRAPER	DESCRIPTION OF WORK AND COMMENTS
PROCESS EQUIPMENT															
B-800	TWO-RAM BALER											200	RVS		BALER TO HAVE OWN CONTROL PANEL
												20 PUMP	FVNR		
												10 HTR/COOLING	FVNR		
												5	FVNR	-	EXISTING E-325 MAGNET TO BE SHIPPED TO DINGS FACTORY FOR RECONDITOING. CONT
E-300	EXISTING TO BE	OVERHEAD	"DINGS"	-	-	-	-		-	-	-	+ RECTIFIER			TO DRAIN AND DISPOSE OIL OF SITE PRIOR TO SHIPMENT TO THE FACTORY.
RE-USE	RECONDITIONED AND	ELECTRO-MAGNET	MODEL 77												EXIST. RECTIFIER TO BE RELOCATED. CONTRACTOR SHALL TEST THE UNITAND REPAIR
EXIST.	RE-USED														BE MADE IF NECESSARY PRIOR TO RE-INSTALLATIOIN.
"DINGS"															
MODEL 77												3	FVNR	-	
E-500	NEW OVERHEAD	OVERHEAD	44" WIDE	-	-	-	-		-	-	-	7.5 KW RECTIFIER			
	ELECTRO-MAGNET	ELECTRO-MAGNET	MAGNET												
			BOX									5	FVNR		EXISTING E-703 MAGNET TO BE SHIPPED TO DINGS FACTORY FOR RECONDITOING. CONT
E-700	EXISTING TO BE	OVERHEAD										+ RECTIFIER			TO DRAIN AND DISPOSE OIL OF SITE PRIOR TO SHIPMENT TO THE FACTORY.
RE-USE	RECONDITIONED AND	ELECTRO-MAGNET													EXIST. RECTIFIER TO BE RELOCATED. CONTRACTOR SHALL TEST THE UNITAND REPAIR
EXIST.	RE-USED														BE MADE IF NECESSARY PRIOR TO RE-INSTALLATIOIN.
"DINGS"															
MODEL 77												5	FVNR		EXISTING E-703 MAGNET TO BE SHIPPED TO DINGS FACTORY FOR RECONDITOING. CONT
E-701	EXISTING TO BE	OVERHEAD										+ RECTIFIER			TO DRAIN AND DISPOSE OIL OF SITE PRIOR TO SHIPMENT TO THE FACTORY.
RE-USE	RECONDITIONED AND	ELECTRO-MAGNET													EXIST. RECTIFIER TO BE RELOCATED. CONTRACTOR SHALL TEST THE UNITAND REPAIR
EXIST.	RE-USED														BE MADE IF NECESSARY PRIOR TO RE-INSTALLATIOIN.
"DINGS"															
MODEL 77												-	20 ROTOR	VFD	
G-300	ALUMINUM	48" BELT	12" DIA ROTOR								300	3 CONVEYOR	FVNR	NO	
	SEPARATOR														
											-	15 ROTOR	VFD		
G-301	ALUMINUM CLEAN	36" BELT	12" DIA ROTOR	-	-	-	-	-	-	-	300	3 CONVEYOR	FVNR	NO	
	UP														
											-	100	RVS	-	5 DEGREE DOWNSLOPE
T-100	ROTARY SCREEN	' DIA x 45'-0" L	-	-	-	-	-	-	-	-	-				CHAIN DRIVE
	TROMMEL	SCREENING DRUM													
											-	100	RVS	-	5 DEGREE DOWNSLOPE
T-200	ROTARY SCREEN	' DIA x 45'-0" L	-	-	-	-	-	-	-	-	-				CHAIN DRIVE
	TROMMEL	SCREENING DRUM													
												7.5	VFD	-	AUTOMATIC SPROCKET OILER. ELECTRO-MECHANICAL ANGLE SDJUSTMENT
V-700	PRIMARY DISC	ROTARY DISC	-	-	-	-	-	-	-	-	-	7.5	VFD		
	SCREEN	SCREEN DECK													
												3	VFD	-	AUTOMATIC SPROCKET OILER.
V-701	SECONDARY DISC	ROTARY DISC	-	-	-	-	-	-	-	-	-	3	VFD		
	SCREEN	SCREEN DECK													
												115 VAC POWER	-	-	BUILT-IN LIMIT SWITCHES.
M-713	ALUMINUM	ELECTRO-MECH'L	-	-	-	-	-	-	-	-	-	SUPPLY			(2) DOORS AND (2) ACTUATORS REQUUIRED. ONE EACH FRONT AND BACK.
	BUNKER DOOR	LINEAR ACTUATOR													
	ACTUATOR											115 VAC POWER	-	-	BUILT-IN LIMIT SWITCHES.
M-714	HDPE	ELECTRO-MECH'L	-	-	-	-	-	-	-	-	-	SUPPLY			(2) DOORS AND (2) ACTUATORS REQUUIRED. ONE EACH FRONT AND BACK.
	BUNKER DOOR	LINEAR ACTUATOR													
	ACTUATOR											115 VAC POWER	-	-	BUILT-IN LIMIT SWITCHES.
M-715	PET	ELECTRO-MECH'L	-	-	-	-	-	-	-	-	-	SUPPLY			(2) DOORS AND (2) ACTUATORS REQUUIRED. ONE EACH FRONT AND BACK.
	BUNKER DOOR	LINEAR ACTUATOR													
	ACTUATOR											115 VAC POWER	-	-	BUILT-IN LIMIT SWITCHES.
M-716	#3-#7	ELECTRO-MECH'L	-	-	-	-	-	-	-	-	-	SUPPLY			(2) DOORS AND (2) ACTUATORS REQUUIRED. ONE EACH FRONT AND BACK.
	BUNKER DOOR	LINEAR ACTUATOR													
	ACTUATOR											115 VAC POWER	-	-	BUILT-IN LIMIT SWITCHES.
M-717	MIXED PAPER	ELECTRO-MECH'L	-	-	-	-	-	-	-	-	-	SUPPLY			DOOR AND ACTUATOR REQUIRED AT FRONT (DISCHARGE) ONLY.
	BUNKER DOOR	LINEAR ACTUATOR													
	ACTUATOR											115 VAC POWER	-	-	BUILT-IN LIMIT SWITCHES.
M-723	OCC	ELECTRO-MECH'L	-	-	-	-	-	-	-	-	-	SUPPLY			DOOR AND ACTUATOR REQUIRED AT FRONT (DISCHARGE) ONLY.
	BUNKER DOOR	LINEAR ACTUATOR													
	ACTUATOR											115 VAC POWER	-	-	BUILT-IN LIMIT SWITCHES.
M-724	ONP	ELECTRO-MECH'L	-	-	-	-	-	-	-	-	-	SUPPLY			DOOR AND ACTUATOR REQUIRED AT FRONT (DISCHARGE) ONLY.
	BUNKER DOOR	LINEAR ACTUATOR													
	ACTUATOR											115 VAC POWER	-	-	BUILT-IN LIMIT SWITCHES.
M-725	MIXED PAPER	ELECTRO-MECH'L	-	-	-	-	-	-	-	-	-	SUPPLY			DOOR AND ACTUATOR REQUIRED AT FRONT (DISCHARGE) ONLY.
	BUNKER DOOR	LINEAR ACTUATOR													
	ACTUATOR											115 VAC POWER	-	-	BUILT-IN LIMIT SWITCHES.
M-726	MIXED PAPER	ELECTRO-MECH'L	-	-	-	-	-	-	-	-	-	SUPPLY			DOOR AND ACTUATOR REQUIRED AT FRONT (DISCHARGE) ONLY.
	BUNKER DOOR	LINEAR ACTUATOR													
	ACTUATOR											1	FVR	-	REVERSIBLE DRIVE
M-731	SPLITTER	14" DIAMETER	-	-	-	-	-	-	-	-	-				
	ROTATING DRUM	BI-DIRECTIOINAL													
		ROTATTING DRUM													
OPTIONAL SINGLE STREAM EQUIPMENY															
												5	VFD		AUTOMATIC SPROCKET OILER. ELECTRO-MECHANICAL ANGLE ADJUSTMENT
V-900	DISC SCREEN	ELECTRO-MECH'L										5	VFD		
	BUNKER DOOR	LINEAR ACTUATOR													
	ACTUATOR														
C-900	ABOVE GROUND	ROLLER CHAIN	330 PIW	42"	18'-0"	44'-0"	4'-0"	35	36	3"@36"	20-50	7.5	VFD	NO	HEAVY DUTY INFEED HOPPER CONSTRUCTION
															DIMENSIONS PRELIMINARY TO BE FINALIZED AT SHOP DRAWING REVIEW.

City of Sunnyvale, CA

EQUIPMENT LIST

PRELIMINARY TO REV. A
UNDER REVIEW - June 2, 2006

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EQUIP NUM	EQUIPMENT DESCRIPTION	EQUIPMENT TYPE	BELT TYPE	BELT WIDTH (IN)	LOWER HORIZ (FT)	INCLINED LENGHT (FT)	UPPER HORIZ. (FT)	ANGLE DEG. ESTIMATED	SIDESKIRT HEIGHT (IN)	CLEAT SPACING	BELT SPEED (FPM)	EST. H.P.	MOTOR STARTER TYPE	BELT SCRAPER	DESCRIPTION OF WORK AND COMMENTS
C-901	INFEED TRANSFER CONVEYOR	TROUGH BELTSLIDER	225 PIW 3-PLY MOR C x BARE	42"	-	125'-0"	-	15	36	2"@36"	40-120	7.5	VFD	NO	DIMENSIONS PRELIMINARY TO BE FINALIZED AT SHOP DRAWING REVIEW.
C-902	V-900 INFEED CONVEYOR	TROUGH BELTSLIDER	225 PIW 3-PLY MOR C x BARE	42"	16'-0"	-	-	0	36	-	40-120	7.5	VFD	YES	GROOVED HEAD PULLEY
C-903	V-900 "OVERS" CONVEYOR	TROUGH BELTSLIDER	150 PIW 2-PLY STD C x BARE	42"	12'-0"	-	-	0	6	-	40-120	7.5	VFD	YES	GROOVED HEAD PULLEY
C-904	V-900 "UNDERS" CONVEYOR	TROUGH BELTSLIDER	225 PIW 3-PLY MOR C x BARE	30"	17'-0"	-	-	0	24	-	100	1.5	FVNR	YES	
C-905	V-900 "UNDERS" CONVEYOR	TROUGH BELTSLIDER	225 PIW 3-PLY MOR C x BARE	30"	15'-0"	-	-	0	24	-	110	1.5	FVNR	YES	
C-906	V-900 "UNDERS" CONVEYOR	ROLLER CHAIN BELT 6" PITCH	330 PIW 3-PLY MOR C x C	30"	-	-	-	35	30	3"@36"	50	7.5	FVNR	NO	DIMENSIONS PRELIMINARY TO BE FINALIZED AT SHOP DRAWING REVIEW.

PROCESS EQUIPMENT NOTES AND FEATURES:

1. ALL PROCESS EQUIPMENT SHALL BE EQUIPPED WITH ZERO SPEED SWITCHES.
2. RE-USED AND NEW CONVEYORS SHALL BE EQUIPPED WITH E-STOP OR 'PULL LANDYARD'.
3. ALL EXISTING CONVEYORS TO BE RE-USED SHALL BE CLEANED BEFORE RE-INSTALLATION.
4. ALL SUPPORTS FOR EXISTING CONVEYORS THAT WILL BE RE-USED SHALL BE MODIFIED /SUPPLIED TO FIT NEW LOCATIONS.

ABBREVIATIONS

TEFC = TOTALLY ENCLOSED FAN COOLED
TENV = TOTALLY ENCLOSED NON-VENTILATED
TEAO = TOTALLY ENCLOSED AIR OVER
ODP = OPEN DRIP PROOF
VFD = VARIABLE FEQUENCY DRIVE
FVR = FULL VOLTAGE REVERSING
FVNR = FULL VOLTAGE NON-REVERSING
RVS = REDUCED VOLTAGE STARTING

GENERAL NOTES

1. PROVIDE INLET HOPPERS AND DISCHARGE CHUTES FOR EACH CONVEYOR AND EQUIPMENT.
2. CLEAT LENGTH TO BE THE WIDTH OF THE BOTTOM OF THE TROUGH. HEIGHTS AS SPECIFIED.
3. ALL NEW CONVEYORS TO BE SUPPLIED WITH DOUBLE BACK SEAL.
4. PICKING STYLE SKIRTS ARE DEFINED AS A 4" OR 6" TROUGHING PAN ALONG BOTHSIDES OF CONVEYOR IN LIEU OF SIDESKIRTS.
5. SIDESKIRT HEIGHTS ARE MEASURED FROM THE TOP OF BELT
6. SUPPORTS SHALL BE LOCATED ON FINAL SHOP DRAWING FOR REVIEW AND APPROVAL BY THE OWNER'S ENGINEER.
7. HORSE POWER SHOWN ARE PRELIMINARY AND SUBJECT TO MANUFACTURER'S RECOMMENDATION WITH THE OWNER'S ENGINEER APPROVAL.
8. CONVEYOR LENGTHS AND ANGLE OF INCLINATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE AT SHOP DRAWING REVIEW.
9. POWER SUPPLY IS 480/3 P/60 HZ UNLESS NOTED.